Statistical Bulletin

METROPOLITAN LIFE INSURANCE COMPANY

Volume 33 NOVEMBER 1952 *Number 11*

Tuberculosis—The Outlook for Control*

FOR many years marked progress has been made in the battle against tuberculosis, and now the fight is being directed toward eliminating the disease as a major health problem at the earliest possible date. In order that effective measures be taken to achieve this objective, the residual problem requires evaluation.

Last year, for the first time, the tuberculosis death rate in our country fell below 20 per 100,000. The rate for the year is estimated at 19.2 on the basis of a 10-percent sample of the death certificates. The downward trend is continuing, and the death rate from the disease will probably drop to a new low of about 18 per 100,000 this year—an achievement of primary magnitude. Among the Industrial policyholders of the Metropolitan Life Insurance Company the rate for the first 10 months of 1952 was 14.2 per 100,000, or 20 percent lower than in the same period of 1951.

The current death rate from tuberculosis in the United States represents a drop of nearly 90 percent in the past 40 years; particularly encouraging is the recent acceleration in the decline. In 1933, the first year country-wide mortality data became available, there were about 75,000 deaths from the disease in the United States. This year, in a population more than one fourth larger, the death toll will probably be only about one third the 1933 figure.

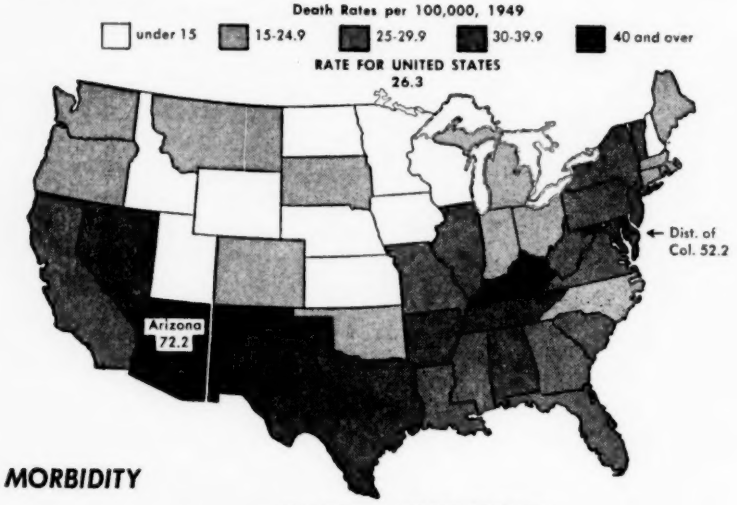
The facts regarding the trend of tuberculosis morbidity are more difficult to evaluate. In many communities where an effort has been made to keep a fairly complete register of cases, there has been little evidence of a decline in the number of known cases. Yet there is indication of a reduction in tuberculosis morbidity from investigations of the frequency of infection as disclosed by tuberculin testing. These studies show considerably fewer positive reactors than in earlier years, especially among children and young adults. Evidence of a decline in the prevalence of tuberculosis is also furnished by medical examinations for employment and for military service.

Why the decline in the number of known cases may not be as large as that of deaths is understandable.

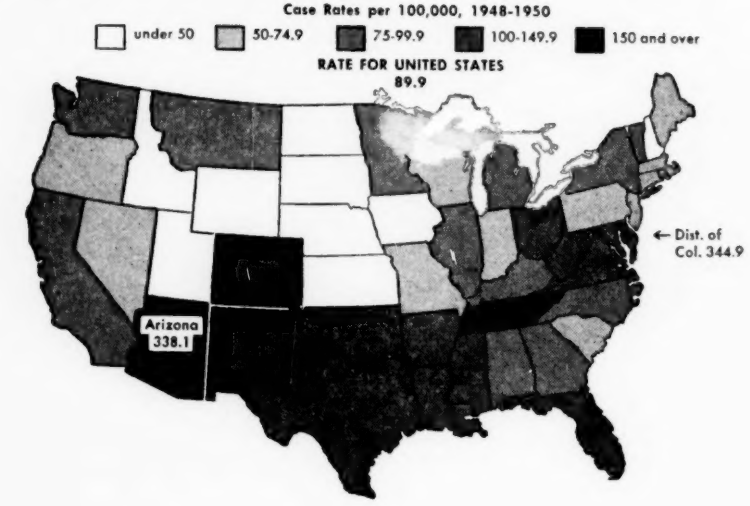
*Based upon chapter 7 of the recently published volume, *A 40-Year Campaign Against Tuberculosis—The Contribution of the Metropolitan Life Insurance Company*, by Dr. Louis I. Dublin, Second Vice-President and Statistician of the Company.

The Current Tuberculosis Situation in the United States

MORTALITY



MORBIDITY



X-ray examinations in hospitals, industry, and mass surveys have led to the discovery of more cases with minimal disease. In addition, existing cases are kept alive longer by the increase in the facilities for treatment, the employment of effective surgical techniques in advanced disease, and the use of antibiotics and other drugs. All of the forces, acting jointly, have helped to maintain the total number of persons living with the disease, although the number of new cases is decreasing.

According to the latest estimate of the National Tuberculosis Association and the Public Health Service, there are now 1,200,000 cases of tuberculosis in the United States, 400,000 of them active. Of the active cases, 150,000 are unknown or unreported. Altogether there are about 250,000 persons with active tuberculosis outside of hospitals, most of whom are potential spreaders of the disease. In addition, each year approximately 115,000 new cases occur which require medical treatment and supervision; that is about 1 per 100,000 of our adult population.

An important consideration in the current tuberculosis problem is the uneven distribution of the disease geographically. The facts on mortality and morbidity are brought out in the chart on page 2. It should be noted, however, that the morbidity data, based upon new cases reported, are not a reliable index of the incidence of the disease, because they are affected by local variations in the intensity of case-finding efforts and in practices of reporting cases. Nevertheless, it is clear that many States enjoy very low rates of mortality and morbidity. Several Midwestern States have already achieved a condition which is not far from the final stage of the campaign to control the disease. In contrast, we have the unsatisfactory situation in the Southwest.

The geographic variations of the disease reflect, in part, differences in the distribution of the various racial groups among whom the tuberculosis rate is high. In 1949 the death rate from the disease in the United States was 86.7 per 100,000 among colored males and 58.8 among colored females, compared with 28.6 and 13.2 for white males and females, respectively. The geographic and racial variations result in part from differences in economic status and consequently in standards of living. There is likewise good evidence that the disease remains an important cause of disability and death in certain occupational groups, such as quarrymen, miners, grinders, and others exposed to silica dust.

Tuberculosis is still a serious medical and public health problem. The goal of eradicating the disease can be achieved if its fundamental characteristics are clearly understood and if proper preventive and therapeutic measures based on this understanding are used vigorously and persistently. From the clinical standpoint, the chief characteristics of pulmonary tuberculosis having broad public health implications are that it is usually asymptomatic at onset; it is a chronic disease, requiring pro-

longed medical treatment and supervision; it is contagious, being spread by active cases, many of whom appear to be perfectly well; and it is preventable by minimizing contact with active cases and by instructing unhospitalized patients in hygienic practices. Accordingly, effective control of tuberculosis requires a systematic and well integrated medical program, encompassing early detection and prompt and adequate treatment of the tuberculous, followed by rehabilitation and continuous medical supervision, research in all phases of the disease, and a program of professional and public education regarding the disease—its mode of spread, its prevention, and the essentials of successful treatment.

There is still need for expansion of facilities and personnel to diagnose and treat tuberculosis. For early detection, routine X-ray examination of the population on a mass scale must be a continuing process, especially in population groups where the prevalence of tuberculosis is still high. Not only are facilities for treatment of active cases inadequate in many areas, but the strain on them is greater than ever before because the period of hospitalization has definitely lengthened. In some measure, this reflects the adoption of new methods of treatment which have cut the death rate among hospitalized patients. In part, too, it may represent greater success in keeping patients hospitalized until the disease is under control. It has been the experience of most sanatoria that many patients leave against medical advice because of concern for their families. This problem can be solved by more suitable provision for the economic and social needs of such dependents.

Notwithstanding the reductions in tuberculosis mortality and morbidity, there is a sizable task ahead before the disease may be considered completely under control in this country. The task will not be easy or completed quickly, but with good understanding of the nature of the problem and with application of this knowledge, there can be no doubt of the ultimate success of the campaign.

Danger Spots In and About the Home

ACCIDENTS in and about the home account for about 28,000 deaths a year in the United States. This is nearly one third of the fatalities sustained in accidents of all types and almost twice the toll exacted by occupational mishaps. Both sexes and all age groups contribute to this heavy loss of life. Although measurable progress has been made in reducing the death rate from home accidents, they still rank among the leading causes of death.

Fatal mishaps occur in every part of the house and in the outdoor area around it, as may be seen from the table on page 5. These data are derived from the death claim records of 663 Industrial policyholders of the Metropolitan Life Insurance Company at ages 15-69 years who lost their lives in home accidents in

1951. While these insured are mainly urban dwellers, their experience affords a good picture of the situation in the general population of the United States.

The bedroom and the stairs accounted for nearly one half of all the fatal injuries sustained in the home last year. The relative importance of these two areas, however, varied with the sex of the victims. Among men, stairs and steps were first, with more than one quarter of all the fatalities, while the bedroom ranked second. Among women the order was reversed.

For each sex, fully one half of the fatal injuries in the bedroom resulted from conflagrations or burns by other means. Actually, from the details available, it appears that little more than one third of these conflagrations had their origin in the bedroom; many spread from the kitchen or living room. The absorption of poisonous gas is another lead-

NUMBER OF DEATHS FROM ACCIDENTS IN AND ABOUT THE HOME ACCORDING TO PLACE WHERE INJURY WAS SUSTAINED. BY SEX, AGES 15 TO 69 YEARS
METROPOLITAN LIFE INSURANCE COMPANY,* INDUSTRIAL DEPARTMENT, 1951

TYPE OF ACCIDENT	TOTAL	BEDROOM	KITCHEN	LIVING ROOM	BATHROOM	STAIRS†	ELSEWHERE INSIDE‡	OUTDOORS‡	UNSPECIFIED
MALES									
Home Accidents—Total	344	79	15	15	5	93	32	59	46
Acute poisoning by solids or liquids	9	2	1	1	—	—	2	—	3
Conflagration	56	35	—	4	—	—	2	—	15
Burns (except conflagration)	32	8	4	3	1	—	1	6	9
Absorption of poisonous gas and vapors	41	17	7	—	—	—	2	11	4
Drowning	1	—	—	—	—	—	—	1	—
Injury by firearms	22	4	1	3	—	—	4	2	8
Injury by falls on same level	30	5	1	4	2	—	5	8	5
Injury by falls from one level to another	135	5	—	—	—	93	13	23	1
Struck or crushed by objects	3	1	—	—	—	—	1	1	—
Electric currents	4	—	—	—	1	—	—	3	—
All other home accidents	11	2	1	—	1	—	2	4	1
FEMALES									
Home Accidents—Total	319	74	47	18	17	57	24	18	64
Acute poisoning by solids or liquids	10	6	2	—	1	—	—	—	1
Conflagration	53	27	3	3	—	—	2	—	18
Burns (except conflagration)	54	11	16	6	1	—	5	4	11
Absorption of poisonous gas and vapors	30	10	6	1	2	—	2	2	8
Drowning	5	1	—	—	4	—	—	—	—
Injury by firearms	4	1	1	—	—	—	—	—	2
Injury by falls on same level	66	11	15	5	6	—	9	5	15
Injury by falls from one level to another	83	7	3	4	1	57	5	4	2
Struck or crushed by objects	1	—	—	—	—	—	—	1	—
Electric currents	—	—	—	—	—	—	—	—	—
All other home accidents	13	—	1	—	2	—	1	2	7

*Exclusive of the Pacific Coast and Canada.

†Inside and outdoors.

‡Elsewhere inside includes—cellar: male 9, female 8; porch: male 9, female 5. Outdoors includes—garage: male 13, female 2; yard: male 27, female 10; roof: male 13, female 2.

ing cause of accidental death in the bedroom. Here again, in only about one half of the cases did the lethal gas originate in the bedroom; in nearly as many cases the source was the kitchen.

Not a few of these bedroom fatalities resulted from careless smoking of cigarettes or pipes in bed. At least 12 men and 10 women were burned to death because of this foolhardy practice. In addition, three people—a man and two women—were asphyxiated by smouldering mattresses accidentally ignited by cigarettes. Some of the careless smokers who lost their lives were bedridden or paralyzed.

Fatal falls also contributed materially to the toll of accidental injury in the bedroom. Such injuries were about evenly divided into falls on the same level and those from one level to another. The first group included slipping on wet floor, tripping on nightgown, colliding with chair, and faintness. In the second group, falling out of a window was an important item among males, while falls out of bed were most frequently mentioned among females. Accidental poisoning by solids or liquids and injury by firearms also figured in the total for the bedroom.

The stairs and steps, as already noted, all too often are the site of accidents. Hallway stairs account for the largest number of such fatalities, particularly among women. Among males, falls on cellar or outside steps added considerably to the total.

The kitchen accounted for about one seventh of all home accident fatalities among women but for less than one twentieth among the men. It is not surprising that women suffered more burns in the kitchen than in any other part of the house, inasmuch as the housewife spends many hours there over boiling pots and kettles, cares for the stove, and does the laundry. Similarly, among women fatal falls in the kitchen are also relatively frequent. Poisonous gas is another important kitchen hazard for both sexes.

The outdoors around the home accounted for almost one fifth of all fatal home accidents among men. Mishaps in the yard, the garage, and on the roof of the house took the majority of these lives, reflecting the hazards of doing the chores as well as the appreciable time that men spend in these places.

The much maligned bathroom was a relatively unimportant factor in home accidents, about one percent of men and five percent of women losing their lives there. Falls and drowning accounted for most of the fatalities sustained in the bathroom.

School Enrollment Continues to Mount

ENROLLMENT in our schools, from kindergarten through college, reached the unprecedented high of more than 31½ million in the 1951-1952 academic year, an increase of 4½ million in only eight years. The figure is probably even higher today and, in fact, may be expected to rise

for at least the next 15 years, inasmuch as the large postwar crop of children is only now beginning to enter school in substantial numbers.

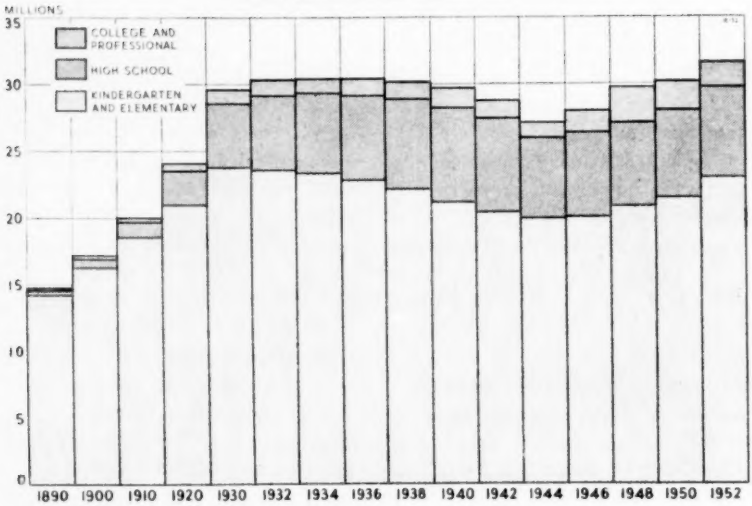
The trend of school enrollment in our country since 1890 is shown in the chart on page 8. Up to 1930 every branch of our educational system was enjoying a vigorous growth. The number of children in kindergarten and elementary school rose from 14.2 to 23.7 million between 1890 and 1930, reflecting for the most part the increase in child population. Far more rapid was the relative increase in secondary and higher education. High school enrollment in this 40-year period climbed from 360,000 to 4.8 million; in the college and professional schools, from 157,000 to 1.1 million. The lengthening of the compulsory period of schooling, the rise in family income, and the decreasing size of family all contributed toward raising the educational level of our young people in that period.

Immediately after 1930, however, the upward trend of kindergarten and elementary school enrollment not only came to an abrupt halt but was actually reversed. The number of such pupils continued to decline for about a decade and a half, as a consequence of the fall in the number of births during the 1920's and the early 1930's. The secondary schools and colleges continued to increase their enrollment until 1940, and then they, too, experienced a decrease until the end of World War II. The secondary schools during the war period were beginning to feel the effect of the fall in the birth rate, while the ranks of the more advanced students were depleted by the wartime demands for military and industrial man power.

Since the close of World War II, schools at every level have once again experienced an influx of students. With the return of men from military service, enrollment in colleges and professional schools reached an all-time high of 2.6 million in the 1947-1948 academic year, more than twice the figure only four years earlier. Of this total, over 1 million were World War II veterans. College enrollment has declined somewhat in the past few years, but it is still materially above the 1940 level. Elementary and secondary school registers last year were nearly back to their peak prewar levels. When data for the current school year become available, they may well show that new highs have been established.

There is little doubt that school enrollment in our country will continue to increase, but it is difficult to forecast accurately the amount of the rise and how long it will go on. The size of school registers in the years ahead will depend in large measure on the future trend of the birth rate, our military man-power needs, and the general economic condition of the country. It is quite certain, however, that kindergarten and elementary school enrollment will continue to grow for more than one and a half decades. Moreover, the likelihood is that secondary and higher education will gain further in popularity. This trend is fore-

School Enrollment in the United States
By Type of School. 1890-1952



PERCENT DISTRIBUTION OF SCHOOL ENROLLMENT IN THE UNITED STATES
BY TYPE OF SCHOOL. 1890-1952

SCHOOL YEAR	TOTAL	KINDERGARTEN AND ELEMENTARY	HIGH SCHOOL	COLLEGE AND PROFESSIONAL
1952	100.0	72.7	21.5	5.8
1950	100.0	71.2	21.5	7.3
1948	100.0	70.0	21.2	8.8
1946	100.0	71.7	22.3	6.0
1944	100.0	73.4	22.3	4.3
1942	100.0	71.0	24.1	4.9
1940	100.0	71.0	24.0	5.0
1938	100.0	73.2	22.3	4.5
1936	100.0	74.8	21.2	4.0
1934	100.0	76.5	20.0	3.5
1932	100.0	77.7	18.5	3.8
1930	100.0	80.1	16.2	3.7
1920	100.0	87.1	10.4	2.5
1910	100.0	92.6	5.6	1.8
1900	100.0	94.5	4.1	1.4
1890	100.0	96.5	2.4	1.1

Note for chart and table: The school year begins in the fall of the preceding year and ends in June of the year indicated.

Source of basic data: Bureau of the Census, *School Enrollment of the Civilian Population*, Series P-20, and U. S. Office of Education, *Biennial Surveys of Education in the United States*.

shadowed by the fact that enrollment in such schools rose from less than 4 percent of all school enrollment in 1890 to more than 27 percent of the total at present, as may be seen in the accompanying table. It is apparent that a considerable expansion of school facilities and personnel is required to meet the educational needs of the country.

Pneumonia Still a Major Killer

THE death rate from pneumonia and influenza, which began to decline rapidly about 15 years ago with the introduction of sulfa drug therapy, is continuing its downward trend with the widespread use of the more recently developed antibiotics. In the past eight years alone, the death rate from these diseases in our country has been reduced by about one half; since 1936 it has dropped nearly three fourths.

Despite these extraordinary results, pneumonia and influenza were still responsible for more than 51,000 deaths* in the United States in 1951. They claimed 21,000 more lives than did tuberculosis, and in the list of diseases were outranked only by the cardiovascular-renal conditions and cancer. In addition to the large toll which they exact directly, these respiratory infections are contributory causes in many thousands of deaths annually charged to other causes. When one realizes that various forms of the respiratory diseases are not amenable to specific therapy, that there are yet no effective immunization procedures, and that there is no guarantee that a major epidemic will not strike as it has at times in the past—then it becomes clear that these infections continue to be a public health problem of major proportions.

Pneumonia and influenza are hazards to life all year around, but particularly so in the winter and spring. About three fifths of the deaths from these diseases now occur in the five months December through April. The proportion was appreciably higher before the newer methods of treatment reduced the seasonal variation. Deaths from pneumonia and influenza are at a minimum in August or September and rise steadily until they reach a peak in the late winter or early spring, and then return to their summer low. It is pertinent to note that the seasonal distribution of deaths from all causes combined is similar to that for the respiratory infections.

Although pneumonia and influenza claim their victims at every period of life, there is marked variation in the death rate by age. This is apparent from the table on the following page which shows the most recent data available from the experience among the Industrial policyholders of the Metropolitan Life Insurance Company. The highest death rates are observed among the very young

*This includes approximately 3,000 deaths from pneumonia among babies under four weeks of age, which are classified with the diseases of early infancy in the Sixth Revision of the International List of Causes of Death.

and the very old—the lowest at ages 10-14 and 20-24 years. Curiously enough, there is a hump in the age curve at ages 15-19; this appears in both sexes and among white and colored persons.

In this stock-taking of the pneumonia-influenza problem, attention needs to be drawn to the materially higher death rate among males than females. In 1950-1951 the excess male mortality from these diseases amounted to 65 percent among white policyholders and 40 percent among the colored. The sex differences were especially high just past midlife, the rate for males being more than three times that for females among white persons at ages 45-54 years. Part of the excess male mortality in the main working ages of life is undoubtedly related to occupational exposure.

Even though colored persons have benefited greatly from the recent advances in medical science, they still suffer a relatively high toll of deaths from pneumonia and influenza. The ratio of the colored to the white death rate is 2 1/5 to 1 among males; among females it is even higher. Such ratios reflect, to some extent, differences in living and working conditions as well as in the quality of medical care.

AVERAGE OF ANNUAL DEATH RATES PER 100,000 FROM PNEUMONIA AND INFLUENZA BY COLOR, SEX, AND AGE. METROPOLITAN LIFE INSURANCE COMPANY INDUSTRIAL DEPARTMENT, 1950-1951

AGE PERIOD (YEARS)	DEATH RATES				PERCENTAGE			
	WHITE		COLORED		MALE OF FEMALE RATE		COLORED OF WHITE RATE	
	Males	Females	Males	Females	White	Colored	Males	Females
All Ages	19.6	11.9	43.5	31.1	165	140	222	261
Under 1*	193.3	132.5	404.7	223.2	69	55	209	168
1 to 4	12.0	12.9	27.5	25.3	108	92	229	196
5 to 9	2.4	3.6	5.3	6.5	67	82	221	181
10 to 14	2.1	1.2	1.5	1.5	175	100	71	125
15 to 19	3.3	1.8	5.0	6.0	183	83	152	333
20 to 24	1.7	1.5	4.8	4.2	113	114	282	280
25 to 34	3.6	2.7	12.2	12.9	133	95	339	478
35 to 44	9.7	3.9	21.7	15.4	249	141	224	395
45 to 54	22.5	7.3	52.2	32.1	308	163	232	440
55 to 64	49.8	21.4	101.8	54.8	233	186	204	256
65 to 74	136.0	69.2	219.4	139.3	197	158	161	201
75 and over	641.8	357.2	424.5	316.0	180	134	66	88

*Does not include deaths among babies under four weeks of age.

DEATH RATES* PER 100,000 POLICYHOLDERS FROM SELECTED CAUSES
INDUSTRIAL PREMIUM-PAYING BUSINESS, *Weekly and Monthly Combined*
METROPOLITAN LIFE INSURANCE COMPANY

October 1952

CAUSE OF DEATH	ANNUAL RATE* PER 100,000 POLICYHOLDERS				
	OCTOBER		JANUARY-OCTOBER		
	1952	1951	1952	1951	1950
ALL CAUSES—TOTAL	601.8	611.4	652.0	651.4	638.2
Tuberculosis (all forms)	10.4	15.7	14.2	17.8	20.8
Tuberculosis of respiratory system	9.2	14.2	12.9	16.2	18.8
Syphilis	2.9	2.9	2.8	3.7	3.9
Communicable diseases of childhood	.2	.2	.6	.5	.6
Acute poliomyelitis	3.9	1.6	1.4	.8	.9
Malignant neoplasms	124.2	123.8	122.6	121.5	118.7
Diabetes mellitus	13.0	13.8	13.9	15.0	15.1
Diseases of the cardiovascular-renal system	298.2	294.9	330.7	330.5	325.9
Vascular lesions, central nervous system	62.3	61.8	67.3	64.6	63.8
Diseases of heart	215.8	211.7	239.8	241.0	236.3
Chronic rheumatic heart disease	11.5	12.1	13.0	13.5	13.3
Arteriosclerotic and degenerative heart disease	157.8	152.3	174.7	175.0	169.2
Hypertension with heart disease	37.8	38.4	41.9	42.1	44.0
Other diseases of heart	8.7	8.9	10.2	10.4	9.8
Hypertension without mention of heart	5.2	4.9	5.9	6.2	6.8
General arteriosclerosis	5.6	4.8	6.3	6.2	6.6
Nephritis and nephrosis	9.3	11.7	11.4	12.5	12.4
Pneumonia	10.6	10.9	15.4	15.8	15.3
Influenza	1.0	.4	1.9	2.7	1.9
Ulcers of stomach and duodenum	5.0	4.3	4.5	4.4	4.3
Appendicitis	1.2	1.7	1.6	1.6	1.7
Hernia and intestinal obstruction	3.4	4.2	3.5	4.1	4.2
Gastritis, duodenitis, enteritis, etc	2.3	2.1	2.9	2.6	2.6
Cirrhosis of liver	8.4	9.4	9.7	9.0	8.9
Complications of pregnancy, childbirth	1.4	1.3	1.4	1.5	1.7
Suicide	4.3	6.3	5.7	6.3	6.8
Homicide	2.8	2.1	2.8	2.5	2.9
Accidents—total	37.4	40.6	41.4	38.7	36.4
Motor vehicle	17.3	18.3	15.8	15.2	15.1
Home	7.4	4.8	7.0	7.0	7.1
Occupational (civilian)	3.0	3.6	3.5	3.7	3.6
War deaths—enemy action	2.9	8.0	2.7	6.1	2.2
All other causes	68.3	67.0	72.2	66.4	63.6

*The rates for 1952 are provisional.

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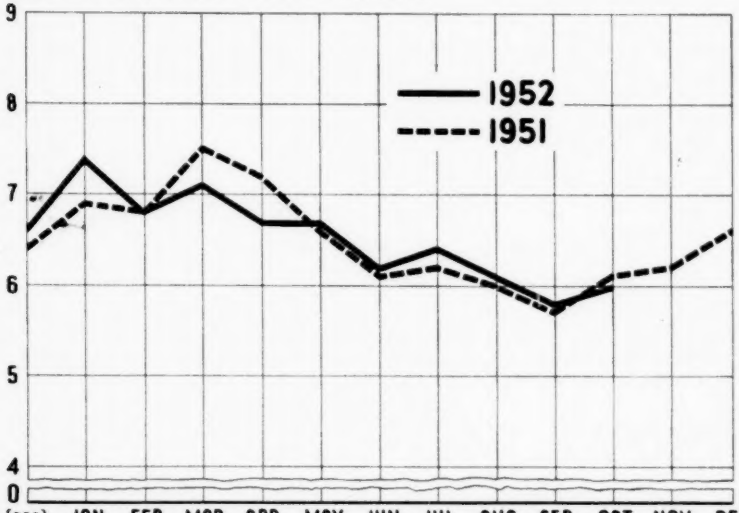
MORTALITY FROM ALL CAUSES

METROPOLITAN LIFE INSURANCE COMPANY · INDUSTRIAL PREMIUM-PAYING BUSINESS
WEEKLY AND MONTHLY COMBINED

DEATH RATES PER 1,000 POLICYHOLDERS · ANNUAL BASIS



(DEC)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1951	6.9	6.8	7.5	7.2	6.6	6.1	6.2	6.0	5.7	6.1	6.2	6.6
1952	7.4	6.8	7.1	6.7	6.7	6.2	6.4	6.1	5.8	6.0		

1952 figures are provisional

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